

A FLORAL AND FAUNAL SURVEY
AND HABITAT ASSESSMENT
OF A COOK COUNTY, ILLINOIS SITE

for
Eldredge Engineering Associates, Inc.

by
ENCAP, Inc.
Environmental Consultants and Planners

P.O. Box 721
DeKalb, IL 60115

May 10, 1976

US EPA RECORDS CENTER REGION 5



414111

INTRODUCTION

The area referred to herein as the study site lies in southwestern Cook County, Illinois. It is bounded on the north by a natural gas pipeline and Commonwealth Edison Co. easement on the south side of the E. J. & E. Railroad, on the east by Interstate Route 57, on the south by Sauk Trail Road, and on the west by Central Avenue. The biological survey teams visited the study site on April 27 and 30, 1976.

The purpose of the study was to describe the ecological character of the site and to evaluate its quality as a natural habitat. To this end, approximately 30 man-hours were spent on the site. The plant species present were recorded on each of the seven somewhat distinct habitat areas on the site. This information is described in terms of habitat quality and predictions as to the future of the habitats by natural ecological processes. Approximately 350 fish were seined from the borrow pit pond in order to determine the species composition of this body of water. The deepest portion of the southern wetland was also seined for fish. Published literature was consulted to ascertain what species of mammals, birds, reptiles, and amphibians could potentially inhabit habitats such as these in southern Cook County. Field evidence of terrestrial vertebrate occurrence is noted in our tabulations, but a thorough determination of species actually present on the site would require a very intensive field effort over many months.

Area 1: Old Farmyard

Of all the upland sites on the tract this one probably has been open to the development of a flora the longest. Mostly what now grows here is a combination of a few remnants of the cultivated or planted ornamental plants such as honeysuckle, roses, and violets, and the annual and perennial weeds which invade disturbed areas around buildings, pens, drives and unattended flower beds. Also here are aged fruit trees (apples and a bush cherry), which have ceased their period of productivity owing largely to neglect. Since the razing of the farm buildings the newly exposed earth mixed with building rubble gives the area the aspect of a wasteland. Among the old foundations aggressive annual weeds such as the Giant Ragweed, early colonizers on bare ground, have taken hold in great abundance.

The trees which remain fall into two categories: those which were planted for shade or ornamental purposes and those which volunteered as adventives. Among the first group are Apple trees, a Black Walnut, and one specimen of Catalpa. All the others belong to the group of adventives, although this is not to say that any individual of the second group was not actually cultivated. Indeed, of the numerous specimens of Box-elder, the most abundant tree species present here, some old individuals show signs of having been pruned many years ago, indicating they were treated as cultivated plants even though they may not have been planted. Their random and crowded placement suggest that they originally came in as adventives. The Box-elder, because

Area 1: Old Farmyard (continued)

of associated insect pests which become a nuisance, is rarely deliberately planted. Its seed blow in on the wind, as is the case also with the species of elm which is found here. Mulberry seeds usually are distributed by seed-eating birds. Once these trees were established, however, the previous owners of the site probably encouraged their growth, perhaps even giving them some care, hoping to have the benefit of shade from some and, perhaps, fruit from the Mulberry.

If the area around the old farmyard is to remain as a visual amenity on the tract it will be very important to start as soon as possible on a program of pruning and mowing. The pruning should be done to convert the apple trees and some of the other hardwoods into more ornamental specimens and to increase their longevity. Mowing should be effected to prevent the area from passing over into a non-"tamed" type grouping. In the disturbed places beneath the older trees are appearing abundant seedling populations of nearly all the trees which are on the species list (table 1), but most notably Box-elder. In a very short period of time the site will acquire a thickety and uncared-for appearance from this species alone, which might be hospitable to small mammals and birds but would give the average passerby the impression of a wasteland.

Area 2: South Field

This abandoned field has had some disturbance to the surface soil, perhaps in the form of partial removal of the topsoil. The weed species present here suggest the area has been free of cultivation (that is, plowing) for a longer period of time than the remaining old fields on the tract. Here are found a diverse mixture of the native and introduced annual and perennial weeds, of which the most abundant species conspicuous in the springtime are the common Dandelion, Yellow Rocket, Giant Ragweed, and Curly Dock. Later in the season, when the taller growing plants have overtopped the spring flowering species the picture of abundance will doubtlessly change considerable. The foxtail grasses likely will become the predominant plants.

On an east-west transect from the old farmyard the south field slopes down to a severely scalped area from which all of the previous year's weed flora has been removed. Becoming established in this bare ground are shoots from the perennial parts of Canada Thistle and Sow-thistle. Continuing the transect beyond a moist depression to the far west portion of the south field the species composition in the scalped area changes such that Knotweed, Curly Dock, and Cocklebur make up the flora. In the depression, more or less in the middle of this scalped area and toward the south boundary of the tract there has developed an impoverished swale flora consisting of River Bullrush and Sandbar Willow. It is through this swale that the tract drains during periods of high rainfall. The drain passes beneath Sauk Trail Road.

Area 3: Western and Central Old Fields

This L-shaped tract borders the west side of the study site and crosses it completely to the east side adjacent to Interstate 57. It is the most recently cultivated of the old fields and evidence of past crops can be found in the litter. The assemblages of species and their relative abundances are typical for such areas in northern Illinois. Extensive populations revealed in the old stalks of the Knotweed and Giant Foxtail cover much of the area. In patches the predominant species shift to other annual weeds such as the Purslane-speedwell, but the overall species composition changes very little from place to place throughout the field. A few perennial species now having taken hold will gradually cause a change in the species composition and relative abundance of the species as these crowd out the annuals. Among the perennials falling into this group are the Hungarian Brome, Curly Dock, Common Milkweed, Hedge Bindweed, and Canada Thistle. At the present time none of these species are the most abundant.

Paralleling the freeway about 75 feet west is an old fence-line with most of the fence rusted and fallen. Along this line the field has not been plowed recently. Here has grown up a line of scrubby trees including Box-elder, Mulberry, and Wild Black Cherry. The area beneath the fence is essentially a Kentucky Blue Grass sod with common broad-leaved weeds such as Yarrow and Wild Strawberry.

Area 4: Overburdon Piles

In an effort to get at desirable fill material for the construction of I-57, it has been necessary in the past to pile up the overburden above the more useful Valparaiso till.

The overburden at this site has been deposited in the far northeastern sector of the study site. Here one finds an interesting assemblage of plants. First, there are those plant species which previously were present as perennials in the formerly undrained depression which has now become the borrow pit. In the process of stripping the overburden, these perennial species or their underground perennial parts have survived in the moisture-holding organic soils which have been stacked up. They now continue to flourish in this artificial upland area. Meanwhile, a typical pioneer flora has developed upon the exposed soils thereby explaining the unusual mixture of wetland and upland plants that are presently found here. Of the wetland plants that participate in this phenomenon, the most conspicuous one is the Reed, a very tall-growing grass. Others that belong in a wet or moist habitat with the Reed are Blue Flag, Swamp Milkweed, and Tall Meadow Rue. The upland pioneer plants are represented by such familiar species as Cottonwood, Box-elder, Black Raspberry, and the Common Evening-primrose. Here also is found one individual of an unusual tree species, the Corkscrew Willow, which undoubtedly has come into the area as an escape from cultivation, since this species is native to Korea and widely sold in north temperate areas as an ornamental.

Area 5: Wetlands

There are two major wetland areas within the confines of the site. The larger of these is the old borrow pit created to provide fill for I-57. This borrow pit or pond lies in the northern half of the study site. In the southern half of the study site lies the other wetland. It is in the shape of a large crescent that begins at the right-of-way of I-57 and swings southwestward toward the southern boundary of the site.

Area 5a: The Southern Wetland

In considering the southern wetland it should be noted at once that much of this wet area reduces in mid-season to a muddy and poorly-drained depression. Only a small portion of it, that part nearest the I-57 right-of-way, remains wet throughout the season. This conclusion is based upon the evidence in the flora, as the two plant species making up the bulk of the vegetation are River Bullrush and Sandbar Willow. Present in very low numbers are additional wetland species such as Petioled Willow (only a couple of plants seen), Water Knotweed, Common Water Horehound, Ditch Stonecrop, and Bittersweet Nightshade. All of these species are of the sort which can tolerate drying up of the wetlands and can flourish in a terrestrial habitat once established. At the same time they tolerate long periods of inundation even throughout the season.

In association with the more or less permanent pond-marsh next to the I-57 right-of-way there has developed a scrubland on

Area 5a: The Southern Wetland (continued)

the adjacent upland topography which undoubtedly receives an influence from the wetness in this poorly drained area. Here has developed a thickety growth of Box-elder, some Mulberry, and Wild Black Cherry. Upland from this thicket the area becomes old part of the old field.

Area 5b: The Northern Wetland

In both the east and the west ends of the borrow pit pond there has developed an extensive littoral zone of emergent vegetation. Such a vegetation type can also be found off the northwest corner of the overburden piles. Only the south shore and a portion of the north shore have poorly developed marginal vegetation. Where a good littoral zone has developed the predominant species are the Great Bullrush and the Common Cattail, with perhaps some plants of the Narrow-leaved Cattail mixed in (the two are not easily discriminated in the spring). Among these larger plants there occur several small creeping and upright herbaceous species such as rushes, spike-rushed, a bed-straw, and the familiar Mad-dog Skullcap. The species diversity increases as the water gets shallower until on the muddy margin such larger-growing species as Sandbar Willow and Cottonwood are found. Over all the littoral zone species composition changes very little from place to place around the pond. In some places the littoral zone has not developed due to the steep slope of the shores. Off the northwest corner of the pond there is an occurrence of the White Water-lily which does not occur

Area 5b: The Northern Wetland (continued)

generally in other parts of the borrow pit. Two places in the pond where the littoral zone does take on a slightly different appearance are off the northwest corner of the overburden piles where the White Water-lily forms extensive beds and off the far southeast corner of the overburden piles where a substantial colony of the White Water Crowfoot extends its flowering branches above water level.

Area 5c: Old Marsh

In the extreme northeast corner of the study site there is a marshland relict which seems not to have been significantly disturbed by the build-up of the overburden piles which have cut off this small wetland from the rest of the borrow pit pond. In this small marsh are found several plant species which do not occur elsewhere in the pond. Among these are the Yellow Water Crowfoot, Blue Joint Grass, Eel-grass, Small Pondweed, Great Bladderwort, Water Heartsease, and Grass-leaved Pondweed. These species are all indicative of a stable water supply and of enriched waters in aquatic areas where a substantial mucky bottom has accumulated. Some of these species are of the sort that they can survive a lowering of the water level to the point of growing only in muck but not to the point of having to grow as a semi-terrestrial plant. In mid-season, when the water level probably does drop somewhat, the area acquires a quite different aspect. Across the area of what now appears as open water there

Area 5c: Old Marsh (continued)

has developed a uniform stand of Blue Joint Grass. This is a tall-growing species which would obscure any water present and tend to give the area the appearance of a meadow. Again, this luxuriant vegetation is an indicator of very fertile conditions. One must conclude that this marsh has reached the stage in its development when it is gradually converting from a true marshland into a semi-aquatic area where the organic sediments are increasing in their rate of accumulation and are contributing to the eventual transformation of the site into a poorly drained terrestrial habitat. But, because most of the above mentioned species have perennial parts anchored in the substrate, it will be many years before there is a substantial change in the species composition from a flora typical of wetlands to a flora which reflects more an upland character.

Table 1. PLANT SPECIES OBSERVED AT THE STUDY SITE. THE SEVEN HABITAT AREAS ON THE SITE (1 THROUGH 5c) ARE AS DESCRIBED IN THE ACCOMPANYING DISCUSSION

	Habitat Area						
	1	2	3	4	5a	5b	5c
Apple							
<u>Pyrus malus</u>	X						
Bittersweet Nightshade							
<u>Solanum dulcamara</u>				X	X		
Blackberry							
<u>Rubus allegheniensis</u>				X			
Black Mustard							
<u>Brassica nigra</u>		X					
Black Raspberry							
<u>Rubus occidentalis</u>				X			
Black Walnut							
<u>Juglans nigra</u>	X						
Black Willow							
<u>Salix nigra</u>					X		
Blue Flag							
<u>Iris virginicus</u>				X			
Blue Joint Grass							
<u>Calamagrostis canadensis</u>							X
Box-elder							
<u>Acer negundo</u>	X	X	X	X			
Bull Thistle							
<u>Cirsium vulgare</u>	X	X	X				
Bush Cherry							
<u>Prunus sp.</u>	X						
*Canada Thistle							
<u>Cirsium arvense</u>	X	X	X	X			
Catalpa							
<u>Catalpa cf. bignonioides</u>	X						
Catnip							
<u>Nepeta cataria</u>							
Chickweed							
<u>Stellaria media</u>	X						
Cleavers							
<u>Galium aparine</u>	X	X		X			
Common Burdock							
<u>Arctium minus</u>	X	X					
Common Cattail							
<u>Typha latifolia</u>						X	X
Common Dandelion							
<u>Taraxacum officinale</u>	X						
Common Elm							
<u>Ulmus americana</u>	X						

Table 1. (continued)

	Habitat Area						
	1	2	3	4	5a	5b	5c
Common Evening-primrose <u>Oenothera biennis</u>				X			
Common Milkweed <u>Asclepias syriaca</u>		X		X			
Common Plantain <u>Plantago major</u>	X						
*Common Pondweed <u>Potamogeton natans</u>						X	
*Common Ragweed <u>Ambrosia artemisiifolia</u>		X					
Common Water Horehound <u>Lycopus americanus</u>					X		
Common Waterweed <u>Eloidea canadensis</u>						X	X
Corkscrew Willow <u>Salix matsudana</u>				X			
Cottonwood <u>Populus deltoides</u>				X		X	
Curly Dock <u>Rumex crispus</u>	X	X	X				
Daisy Fleabane <u>Erigeron annuus</u> & <u>Erigeron strigosus</u>	X	X	X				
Ditch Stonecrop <u>Penthorum sedoides</u>					X	X	
Dogbane <u>Apocynum cf. sibiricum</u>				X			
Eel-grass <u>Vallisneria americana</u>							X
Elderberry <u>Sambucus canadensis</u>	X						
English Plantain <u>Plantago lanceolata</u>		X					
False Solomon's Seal <u>Smilacina stellata</u>				X			
Field Cress <u>Lepidium campestre</u>		X					
Fringed Loostripe <u>Lysimachia ciliata</u>	X						
Frost Grape <u>Vitis riparia</u>	X						
Giant Foxtail <u>Setaria faberii</u>		X	X				
*Giant Ragweed <u>Ambrosia trifida</u>	X	X					

Table 1. (continued)

	Habitat						
	1	2	3	4	5a	5b	5c
Goldenrod							
<u>Solidago</u> sp.				X			
Grass-leaved Pondweed							
<u>Potamogeton</u> <u>gramineus</u> var.							
<u>graminifolius</u>							X
Great Bladderwort							
<u>Utricularia</u> <u>vulgaris</u>							X
Great Bullrush							
<u>Scirpus</u> <u>validus</u>						X	
Green Foxtail							
<u>Setaria</u> <u>viridis</u>		X	X				
Hedge Bindweed							
<u>Convolvulus</u> <u>sepium</u>			X				
Honeysuckle							
<u>Lonicera</u> sp.	X						
Hungarian Brome							
<u>Bromus</u> <u>inermis</u>		X	X				
Kentucky Blue Grass							
<u>Poa</u> <u>pratensis</u>	X	X	X				
Knotweed							
<u>Polygonum</u> <u>pensylvanicum</u>		X	X				
Lamb's Quarter							
<u>Chenopodium</u> <u>album</u>	X	X					
Large-leaved Pondweed							
<u>Potamogeton</u> <u>amplifolius</u>						X	
Mad-dog Skullcap							
<u>Scutellaria</u> <u>lateriflora</u>						X	
Mermaid Weed							
<u>Proserpinaca</u> <u>palustris</u>						X	
Mountain Mint							
<u>Pycnanthemum</u> <u>virginicum</u>				X			
Mouse-eared-chickweed							
<u>Cerastium</u> sp.	X	X					
Mulberry							
<u>Morus</u> <u>alba</u>							
Narrow-leaved Cattail							
<u>Typha</u> <u>angustifolia</u>						X	
Needle Spikerush							
<u>Eleocharis</u> <u>acicularis</u>							
Nimblewill							
<u>Muhlenbergia</u> <u>schreberi</u>				X			
Orchard Grass							
<u>Dactylis</u> <u>glomerata</u>	X						
Petioled Willow							
<u>Salix</u> <u>petiolaris</u>					X		

Table 1. (continued)

	Habitat						
	1	2	3	4	5a	5b	5c
Pineapple Weed							
<u>Matricaria matricarioides</u>	X						
Purslane Speedwell							
<u>Veronica peregrina</u>			X				
Red Ash							
<u>Fraxinus pennsylvanica</u>	X						
Red Clover							
<u>Trifolium pratense</u>	X	X		X			
Red-stalked Plantain							
<u>Plantago rugellii</u>	X	X		X			
Reed							
<u>Phragmites communis</u>				X			
River Bullrush							
<u>Scirpus fluviatilis</u>		X			X		
Rose							
<u>Rosa sp.</u>	X						
Rough Avens							
<u>Geum laciniatum</u>	X						
Rush							
<u>Juncus sp.</u>						X	
Sandbar Willow							
<u>Salix interior</u>		X			X	X	
Scouring-rush							
<u>Equisetum arvense</u>				X			
Sedge							
<u>Carex spp.</u>						X	
Shepard's Purse							
<u>Capsella bursa-pastoris</u>	X						
Small Bedstraw							
<u>Galium trifidum</u>						X	
Small Duckweed							
<u>Lemna minor</u>						X	
Small-flowered Buttercup							
<u>Ranunculus abortivus</u>	X						
Small Pondweed							
<u>Potamogeton pusillus</u>							X
Sour Dock							
<u>Rumex acetosella</u>				X			
*Sow-thistle							
<u>Sonchus uliginosus</u>		X	X				
Spike-rush							
<u>Eleocharis sp.</u>					X	X	X
Stiff Water Crowfoot							
<u>Ranunculus longirostris</u>							X
Swamp Milkweed							
<u>Asclepias incarnata</u>				X			X

Table 1. (continued)

	Habitat						
	1	2	3	4	5a	5b	5c
Tall Meadow Rue							
<u>Thalictrum dasycarpum</u>				X			
Violet							
<u>Viola cf. nephrophylla</u>				X			
Violet							
<u>Viola cf. papilionacea</u>	X						
Water Heartsease							
<u>Polygonum coccineum</u>					X		
Water Knotweed							
<u>Polygonum amphibium</u>					X		
Water Milfoil							
<u>Myriophyllum exalbescens</u>						X	
White Clover							
<u>Trifolium repens</u>	X						
White Water-lily							
<u>Nymphaea tuberosa</u>						X	
Wild Black Cherry							
<u>Prunus serotina</u>			X	X			
Wild Carrot							
<u>Daucus carota</u>	X	X	X				
Wild Crane's Bill							
<u>Geranium maculatum</u>				X			
Wild Strawberry							
<u>Fragaria Virginiana</u>		X	X				
Wingstem							
<u>Actinomeris alternifolia</u>				X			
Yarrow							
<u>Achillea millefolium</u>	X		X				
Yellow Foxtail							
<u>Setaria lutescens</u>		X	X				
Yellow Rocket							
<u>Barbarea vulgaris</u>	X	X					
Yellow Water Crowfoot							
<u>Ranunculus flabellaris</u>							X

*Classified as a noxious weed in Illinois (Illinois Department of Agriculture, 1975)

DISCUSSION

Within the study site there occurs no unique assemblage of plant species. The habitats which are found here fall into two categories: 1) those which have been withdrawn from previous disturbance (such as cultivation) and are now in the beginning stages of natural plant succession that would lead eventually to the development of a community representative of a kind which might have been present at the site prior to settlement times, and 2) those which are degraded from an undisturbed state but not totally destroyed. In the second category is placed one small remnant of a marsh. This is identified in the report as a wetland numbered area 5c. This marsh, if left entirely undisturbed from this time hence would gradually change into a mucky area without standing water and finally into a terrestrial ecological community. Disturbances such as the placement of the adjacent overburden piles and the run-off from I-57, as well as the past run-off from agricultural field, have probably hastened this natural process and may have had a significant effect on the species diversity. At the present time this marsh represents an interesting area to an aquatic biologist, but it is not unusual in Northern Illinois. All the remaining tracts within the site fall into the first category. They are similar and numerous such areas in the vicinity which have been withdrawn from farming.

DISCUSSION (Continued)

None of the plant species seen within the study site have the status of a threatened or endangered species (Schreiner, 1975).

Indeed, the majority of the plant species recorded for the area comprise a weed flora of which several species are considered noxious by the State of Illinois (Illinois Department of Agriculture, 1975). On a more local level of consideration, none of the species found here are classed as rare in the Chicago Region (Swink, 1974), specifically in Cook County (Table 2). These facts correlate with the realization that the habitats represented in the site are not rare.

The upland habitats on the study site are of marginal quality to support bird, mammal, and reptile life. While numbers of migrant birds might be periodically high, the size and quality of the field and wooded areas are too low to support breeding or year-round populations otherwise typical of such habitats. The wetland areas on the site are of somewhat higher quality, and this may be reflected in the presence of typical aquatic bird species. In general, mammal populations are probably low. The muskrat population appeared low, as only two unmaintained lodges were present, although there may be active bank burrows. No racoon or carnivore tracks were observed. No species of vertebrate animals protected by the Illinois Endangered Species Protection Act is likely to be found on the study site.

Only a few fish species are to be found on the study site (Table 6). These are in the borrow pit pond; the other aquatic

DISCUSSION (continued)

areas are too shallow to be inhabited by fish. The moderately abundant Golden Shiner is a very commonly used bait fish and has likely been introduced by local fisherman. The same may be true of the minnows found, and the bullhead, sunfish and bass have also likely been introduced by local fish enthusiasts. The pond is so shallow as to expose the resident fish to severe winter kills, and, as the body of water becomes progressively shallower by natural siltation, this situation will worsen.

CONCLUSIONS

On the basis of information obtained through site visits and a literature survey, it appears to us that the flora and fauna found on this site, either singly or in combination, are not unique or unusual enough, or of sufficient quality, to warrant preservation. Even if left undeveloped, the site would likely become of poorer quality by natural processes, because of its small size and proximity to other disturbed areas. Any recommendation that the area be used as a fish and/or wildlife habitat would have to incorporate extensive and costly management proposals for ecological restoration and improvement. Furthermore, development and use of the surrounding lands must be considered as influencing the suitability of the habitats for plant and animal life on this site.